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The use of genetic programming to build queries for ii retrieval

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Abstract:
Genetic programming is applied to an information retrieval system in order
Boolean query formulation via relevance feedback. This approach brings toᵢ
concepts of information retrieval and genetic programming. Documents are
vectors in index term space. A Boolean query, viewed as a parse tree, is an
the genetic programming sense. Through the mechanisms of genetic progrᵢ
query is modified in order to improve precision and recall. Relevance feedbᵢ
incorporated, in part, via user defined measures over a trial set of documen
of a candidate query can be expressed directly as a function of the relevanc
retrieved set. Preliminary results based on a testbed are given. The form of
function has a significant effect upon performance and the proper fitness fuᵢ
into account relevance based on topicality (and perhaps other factors).

Index Terms:
genetic algorithms; search problems; query processing; information retriev
vocabulary; Boolean functions; trees (mathematics); genetic programming;
retrieval system; Boolean query formulation; relevance feedback; index ter
parse tree; user defined measures; fitness function; topicality

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Query expansion for intelligent information retrieval Internet

- *Jae-Hyun Lim; Hyon-Woo Seung; Jun Hwang; Young-Chan Kim; Heung-N*
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Abstract:
Most systems that manage distributed information on Internet have difficul
retrieving relevant information for they are not able to include the exact ser
retrieval queries that users request. In this paper, we propose an automatic
expansion method based on term distribution, which naturally reflects serr
retrieval terms in order to enhance the performance of information retrieval
technique in the LSI is utilized in the proposed method to measure the terr
which appears similar to a query. Terms appearing most similar to the quer
consideration of the distribution are appended to the query. Thereby, the qu
documents without having common terms but with common concepts. An a
reduction technique is also proposed which does not choose to append all th
same distribution area. The experimental results show our method maintair
retrieval effectiveness as the other LSI methods without having to append r
unnecessary terms.

Index Terms:
Internet; query processing; information retrieval; **query expansion**; intelli
information retrieval; Internet; distributed information; semantics; term di:
SVD technique; LSI; automatic term reduction technique

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15	BRS	L15	83	9 AND map! AND (web! OR www! OR internet!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:40
16	BRS	L16	3	15 NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:17
17	BRS	L17	288	1 SAME (map$2 OR atlas$2 OR driving! OR navigat$5 OR driver$2 OR route! OR travel$4)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:21
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21	BRS	L21	8	20 NOT 17	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:21
22	BRS	L22	268	magellan!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:23
23	BRS	L23	19	9 AND 22	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:23
24	BRS	L24	0	23 AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:23

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26	BRS	L26	1	1 AND 22	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:24
27	BRS	L27	97	22 NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:26
28	BRS	L28	9	22 NOT @AD>19941231 AND (map! OR atlas!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:32
29	BRS	L29	1	alam-hosain$.xa,xp. AND amazon$.as. AND (quer$3 NEAR2 refine$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:33
30	BRS	L30	1	"5640553".PN.	USPAT	2001/08/15 18:34
31	BRS	L31	61	((search$4 OR retriev$4 OR quer$4) SAME 1) NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:39

	Type	L #	Hits	Search Text	DBs	Time Stamp
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33	BRS	L33	1	31 AND (web! OR www! OR internet!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:41
34	BRS	L34	20	31 AND map!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:43
35	BRS	L35	4	31 AND map! AND category!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:44

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1	BRS	L1	2761	point! ADJ2 interest!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:39
2	BRS	L2	610	1 AND map!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 17:55
3	BRS	L3	78	1 AND map! AND (web! OR www! OR internet!)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:14
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6	BRS	L6	42	((search$4 OR retriev$4 OR quer$4) SAME (atlas! OR map!)) AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:39

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8	BRS	L8	11	6 AND (701/$.ccls. OR 707/$.ccls. OR 709/$.ccls. OR 705/$.ccls.)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:12
9	BRS	L9	2481	701/20$,21$.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:12
10	BRS	L10	63	9 AND 1	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:12
11	BRS	L11	0	10 AND (atlas! OR map!) AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:13
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2	BRS	L2	1	1 AND internet!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 16:55
3	BRS	L3	93	701/20$.ccls. AND internet!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 16:51
4	BRS	L4	11	701/20$.ccls. AND internet! AND category!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 16:51
5	BRS	L5	492	navigation! SAME internet!	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 16:55

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2	BRS	L2	610	1 AND map!	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/08/15 17:55
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4	BRS	L4	4	1 AND (atlas! OR map!) AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/08/15 17:56
5	BRS	L5	887	(atlas! OR map!) AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM TDB	2001/08/15 18:12
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7	BRS	L7	2	((search$4 OR retriev$4 OR quer$4) SAME (category! OR topic$2 OR interest!) SAME (atlas! OR map!)) AND (web! OR www! OR internet!) NOT @AD>19941231	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:10
8	BRS	L8	11	6 AND (701/$.ccls. OR 707/$.ccls. OR 709/$.ccls. OR 705/$.ccls.)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/08/15 18:12
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